

### REMARKS

Claims 1, 6, 15, 17 and 18 have been amended. Subsequent to the entry of the present amendment, claims 1-19 are pending and at issue. These amendments add no new matter as the claim language is fully supported by the specification and original claims. Reconsideration of the application is respectfully requested in view of the above amendments and the following remarks.

#### Priority

The Office Action acknowledges priority to Canadian Patent Serial No. 2,420,939 and notes that applicant has not filed a certified copy of the priority document.

Transmitted with the present response is a certified copy of Canadian Patent Serial No. 2,420,939.

#### Rejections under 35 U.S.C. §112

The Examiner rejected claim 6 under 35 U.S.C. 112, second paragraph, alleging that this claim is indefinite for failing to particularly point out and distinctly claim the subject matter which the Applicant regards as the invention.

The Applicant has amended claim 6 currently on file in order to more precisely claim the scope of protection being sought. The Applicant asserts that amended claim 6 complies with 35 U.S.C. 112, second paragraph and therefore requests the Examiner to withdraw this objection.

#### Rejections under 35 U.S.C. §102 and §103

The Examiner rejected claims 1 to 4, 11, and 13 under 35 U.S.C. 102(a) alleging that these claims are anticipated by United States Patent Application No. 2003/0095407 to Yao, hereinafter referred to as Yao. Applicant respectfully traverses this rejection.

In reference to claim 1, the Examiner alleged that: Yao shows a system for manipulating illumination created by an array of light emitting devices [Figure 2a: (2)], said

system comprising: a) a plurality of light emitting devices spatially arranged in an array [see page 1 paragraph [0015] line 3 in reference to Figure 2a: (21), said array separated into one or more sections, wherein each section of the array includes light emitting devices capable of creating illumination having a predetermined wavelength range; b) a macroscopic optical system [Figure 2a: (23)] adjacent to the plurality of light emitting devices [Figure 2a: (21)]; c) said macroscopic optical system [Figure 2a: (23)] enabling redirection of the illumination created by the plurality of light emitting devices [Figure 2a: (21)]; d) and a microscopic optical system for diffusing the illumination [Figure 2a: (22)] created by the plurality of light emitting devices [Figure 2a: (21)] subsequent to the redirection by the macroscopic optical system [Figure 2a: (23)], thereby providing a desired level of blending of the predetermined wavelengths ranges.

The Applicant respectfully disagrees with the Examiner's objection and notes that Yao discloses a back light unit comprising a plurality of lamps, a diffuser and a reflector as defined in paragraph [0015]. The Applicant asserts that Yao's lamps are significantly different from the light emitting devices as defined in independent claim 1, currently on file. Specifically, the lamps as defined by Yao emit light from their entire circumference as is known with respect to a fluorescent or neon type lamp. In contrast the light emitting devices according to the present invention emit light from one side thereof and therefore are drastically different from the "lamp" as disclosed by Yao. The Applicant, however, without conceding to the correctness of the Examiner's objection but for the purpose of advancing examination, has amended claim 1, currently on file to more clearly describe the claimed subject matter. Claim 1 submitted herewith includes the features of the "macroscopic optical system providing a means for creating an off-axis distribution of the illumination" and the "microscopic optical system configured to retain the off-axis distribution of the illumination". Furthermore the Applicant has amended claim 1 to define the macroscopic optical system as being "proximate" to the plurality of light emitting elements. Support for this amendment can be found throughout the application as originally filed, for example in paragraphs [0036] to [0046] and Figures 3 to 6, 10, 11, 14 and 15.

The Applicant further asserts that Yao does not teach or suggest either a “macroscopic optical system providing a means for creating an off-axis distribution of the illumination” or a “microscopic optical system configured to retain the off-axis distribution of the illumination” as expressly defined in independent claim 1, submitted herewith. Yao further does not teach or suggest that the “macroscopic optical system” is positioned proximate to the “plurality of light emitting devices” also as expressly defined in independent claim 1. The Applicant, therefore asserts that claim 1 is not anticipated by Yao. As claims 2 to 4, 11 and 13 depend directly or indirectly on independent claim 1, these dependent claims are equally not anticipated by Yao. The Applicant therefore asserts that claims 1 to 4, 11 and 13 comply with 35 U.S.C. 102(a) and requests the Examiner to withdraw this objection.

The Examiner rejected claims 7 to 10 under 35 U.S.C. 103(a) alleging that these claims are unpatentable over Yao in view of U.S. Patent No. 6,234,643 to Lichon, Jr., hereinafter referred to as Lichon. Applicant respectfully traverses this rejection.

The Examiner alleged that Yao shows that the macroscopic optical system includes at least one horizontal reflector [Figure 2a: (23)], but that Yao does not show that the horizontal reflector is a parabolic shape, that the macroscopic system includes at least one vertical trough reflector, that the vertical trough reflector is a parabolic shape, and that the macroscopic optical system includes at least one vertical parabolic trough reflector and at least one linear tilted parabolic reflector. The Examiner also alleged that Lichon teaches that the horizontal reflector is a parabolic shape [claim 2 in reference to Figures 11 and 12]; the macroscopic system includes at least one vertical trough reflector, the vertical trough reflector is a parabolic shape [claim 2 in reference to Figures 11 and 12]; and that the macroscopic optical system includes at least one vertical parabolic trough reflector and at least one linear tilted parabolic reflector [claim 2 in reference to Figures 11 and 12]. The Examiner further alleged that it would have been obvious for one of ordinary skill in the art, at the time of the invention to use both a vertical parabolic trough reflector and a linear tilted parabolic reflector taught by Lichon, within the macroscopic system of Yao for the purpose and advantage of redirecting the illumination created by the point source light emitting devices in one or more desired directions.

Based on the above arguments, the Applicant asserts that independent claim 1, on which claims 7 to 10 directly or indirectly depend, is novel over Yao. The Applicant further asserts that nothing in Yao teaches or suggests a “macroscopic optical system providing a means for creating an off-axis distribution of the illumination”, a “microscopic optical system configured to retain the off-axis distribution of the illumination” or that the macroscopic optical system is positioned proximate to the plurality of light emitting devices, as expressly defined in independent claim 1, submitted herewith. The Applicant therefore strongly asserts that a worker skilled in the art, having regard to Yao, would not have been led directly and without difficulty to the instant invention as defined in independent claim 1, submitted herewith.

As Lichon does not cure the fundamental deficiencies identified in Yao, claims 7 to 10 currently on file are therefore inventive in light of Yao in view of Lichon. The Applicant therefore asserts that claims 7 to 10 currently on file comply with 35 U.S.C. 103(a) and respectfully requests this objection be withdrawn.

The Examiner rejected claims 12 and 14 under 35 U.S.C. 103(a) alleging that these claims are unpatentable over Yao in view of U.S. Patent No. 6,260,981 to Fiene, hereinafter referred to as Fiene. Applicant respectfully traverses this rejection.

The Examiner alleged that Yao shows the microscopic optical system [Figure 2a: (22)] but that Yao does not show that the microscopic optical system is selected from the group comprising a holographic diffuser having a linear or elliptical distribution, a mechanically produced plastic diffuser and a lenticular array; and that the microscopic optical system is selected from the group comprising a holographic diffuser having a circular distribution, a frosted or sandblasted glass diffuser, a plastic diffuser and a lenslet array. The Examiner alleged that Fiene teaches that the microscopic optical system is selected from the group comprising a holographic diffuser having a linear or elliptical distribution, a mechanically produced plastic diffuser and a lenticular array [column 4 line 66 to column 5 line 1], and that the microscopic optical system is selected from the group comprising a

holographic diffuser having a circular distribution, a frosted or sandblasted glass diffuser, a plastic diffuser and a lenslet array [column 4 line 66 to column 5 line 1]. The Examiner further alleged that it would have been obvious for one of ordinary skill in the art, at the time of the invention to use a plastic diffuser taught by Fiene as the microscopic optical system shown in Yao for the purpose and advantage of enabling the reduction of the appearance of high brightness or illumination "hot spots" which can result from the illumination of an area using point light sources like light emitting devices.

Based on the above arguments, the Applicant asserts that independent claim 1 on which claims 12 and 14 indirectly depend, is inventive in light of Yao. As Fiene does not cure the fundamental deficiencies identified in Yao, claims 12 and 14 currently on file are therefore inventive in light of Yao in view of Fiene. The Applicant therefore asserts that claims 12 and 14 currently on file comply with 35 U.S.C. 103(a) and respectfully requests this objection be withdrawn.

The Examiner rejected claim 15 alleging that it is a method claim corresponding to the apparatus claimed in claim 1, and is therefore rejected for the similar reasons set forth in the rejection of claim 1. Applicant respectfully traverses this rejection.

The Examiner alleged that, in addition to the reasons set forth in the rejection of claim 1, Lichon teaches "optics formed in a grid pattern [see Figures 1, 2, and 6]".

Based on the arguments regarding claim 1 provided above, the Applicant asserts that claim 15 currently on file is both novel and inventive in light of the cited prior art. The Applicant, however, without conceding to the correctness of the Examiner's objection but for the purpose of advancing examination, has amended claim 15, currently on file to more clearly describe the claimed subject matter. Claim 15 submitted herewith includes the features of the "macroscopic optical system creating redirected illumination having an off-axis distribution" and the step of "diffusing the redirected illumination is performed to retain the off-axis distribution of the redirected illumination". Support for this amendment can be

found throughout the application as originally filed, for example in paragraphs [0036] to [0046].

The Applicant further asserts that Yao does not teach or suggest either a “macroscopic optical system creating redirected illumination having an off-axis distribution” or the step of “diffusing the redirected illumination is performed to retain the off-axis distribution of the redirected illumination” as expressly defined in independent claim 15, submitted herewith. The Applicant, therefore asserts that claim 15 is novel and inventive in light of Yao and Lichon taken alone or in combination and therefore respectfully requests that this objection be withdrawn.

The Examiner rejected claim 16 alleging that it is a method claim corresponding to the apparatus claimed in claim 1, and is therefore rejected for the similar reasons the Examiner set forth in the rejection of claim 1. Applicant respectfully traverses this rejection.

Based on the arguments, the Applicant asserts that independent claim 15 is novel and inventive in light of the cited prior art. As claim 16 is dependent of claim 15, this claim is equally novel and inventive in light of the cited prior art. The Applicant, therefore respectfully requests the Examiner to withdraw this objection.

The Examiner rejected claim 17 alleging that it is a method claim corresponding to the apparatus claimed in claims 1 and 10, and it is therefore rejected for the similar reasons the Examiner set forth in the rejection of claims 1 and 10. Applicant respectfully traverses this rejection. Applicant respectfully traverses this rejection.

Based on the above arguments, the Applicant asserts that independent claim 15 is novel and inventive in light of the cited prior art. As claim 17 is dependent of claim 15, this claim is equally novel and inventive in light of the cited prior art. The Applicant, therefore respectfully requests the Examiner to withdraw this objection.

In addition, the Applicant has amended claim 17 replacing the phrase “grid pattern” with the phrase “macroscopic optical system”. Support for this amendment can be found throughout the application as originally filed.

The Examiner rejected claim 18 alleging that it is a method claim corresponding to the apparatus claimed in claims 1 and 4, and it is therefore rejected for the similar reasons the Examiner set forth in the rejection of claims 1 and 4. Applicant respectfully traverses this rejection.

Based on the above arguments, the Applicant asserts that independent claim 15 is novel and inventive in light of the cited prior art. As claim 18 is dependent of claim 15, this claim is equally novel and inventive in light of the cited prior art. The Applicant, therefore respectfully requests the Examiner to withdraw this objection.

In addition, the Applicant has amended claim 18 replacing the phrase “grid pattern” with the phrase “macroscopic optical system”. Support for this amendment can be found throughout the application as originally filed.

In re Application of:  
Peter Kan  
Application No.: 10/730,816  
Filed: December 8, 2003  
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PATENT  
Attorney Docket No.: MBM1360

### **Conclusion**

In view of the above amendments and remarks, reconsideration and favorable action on all claims are respectfully requested. In the event any matters remain to be resolved, the Examiner is requested to contact the undersigned at the telephone number given below so that a prompt disposition of this application can be achieved.

A check in the amount of \$1,020.00 is enclosed as payment for a three-month Petition for Extension of Time fee. Applicants do not believe any other fees are due in connection with this Response. However, the Commissioner is hereby authorized to charge any fees that may be associated with this communication, or credit any overpayment to Deposit Account No. 07-1896, referencing the above-identified attorney docket number. A duplicate copy of the Transmittal Sheet is enclosed

Respectfully submitted,



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